

Appln. of: Schreiber
Serial No.: 10/735,706
Filed: December 16, 2003

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for the joining of TiAl components with a braze having a melting temperature lower than a melting temperature of the TiAl components, comprising:

aligning the TiAl components to form a braze joint therebetween into which molten braze can be deposited;

depositing the braze into the braze joint;

heating the braze with a laser beam to a temperature at which the braze is molten but which temperature is below a melting temperature of the TiAl components, so that the braze adheres to the TiAl components;

limiting heating of the TiAl components to an amount insufficient to change the structure of the components or substantively change the dimensions of the components due to thermal expansion, wherein the braze is heated by a laser.

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) A method in accordance with Claim 13, wherein TiAl sheets are joined.

5. (Original) A method in accordance with Claim 4, wherein the components are joined with a braze gap.

6. (Original) A method in accordance with Claim 5, wherein the components are butt-joined.

7. (Original) A method in accordance with Claim 6, wherein joining is accomplished under protective gas.

8. (Original) A method in accordance with Claim 7, wherein the components are positioned relative to each other at room temperature and under atmospheric pressure.

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9. (Original) A method in accordance with Claim 8, wherein a ductile braze is used.
10. (Original) A method in accordance with Claim 9, wherein the molten bath is protected from sagging by means of a backing bar.
11. (Original) A method in accordance with Claim 10, wherein the braze is fed in the form of a wire.
12. (Original) A method in accordance with Claim 10, wherein the braze is fed in the form of powder.
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (Cancelled)
17. (Cancelled)
18. (Cancelled)
19. (Cancelled)
20. (Cancelled)
21. (Original) A method in accordance with Claim 1, wherein the components are joined with a braze gap.
22. (Original) A method in accordance with Claim 1, wherein the components are butt-joined.
23. (Original) A method in accordance with Claim 1, wherein joining is accomplished under protective gas.

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24. (Original) A method in accordance with Claim 1, wherein the components are positioned relative to each other at room temperature and under atmospheric pressure.

25. (Original) A method in accordance with Claim 1, wherein a ductile braze is used.

26. (Original) A method in accordance with Claim 1, wherein the molten bath is protected from sagging by means of a backing bar.

27. (Original) A method in accordance with Claim 1, wherein the TiAl components are joined with a filled joint.

28. (Original) A method in accordance with Claim 1, wherein the TiAl components are joined by an overlapping joint.

29. (Original) A method in accordance with Claim 1, wherein the TiAl components are joined without a braze gap.

30. (Original) A method in accordance with Claim 4, wherein the TiAl components are joined with a filled joint.

31. (Original) A method in accordance with Claim 4, wherein the TiAl components are joined by an overlapping joint.

32. (Original) A method in accordance with Claim 4, wherein the TiAl components are joined without a braze gap.

33. (New) A method in accordance with claim 1, wherein the braze is melted prior to deposition into the braze joint.

34. (New) A method in accordance with claim 1, wherein the braze is melted after deposition into the braze joint.

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35. (New) A method in accordance with claim 1, wherein the braze is melted during deposition into the braze joint.